

**BEFORE THE
PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA**

DOCKET NO. 2018-318-E

IN THE MATTER OF:

Application of Duke Energy Progress, LLC for
Adjustments in Electric Rate Schedules
and Tariffs

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**SURREBUTTAL TESTIMONY OF
JUSTIN R. BARNES ON BEHALF OF
VOTE SOLAR**

March 25, 2019

TABLE OF CONTENTS

I. INTRODUCTION.....	1
II. PURPOSE AND SCOPE.....	1
III. THE VALIDITY OF THE MINIMUM SYSTEM METHOD	2
IV. THE RESIDENTIAL BFC	10
V. DEMAND CHARGES FOR RESIDENTIAL CUSTOMERS	16
VI. CONCLUSION.....	19

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT**
3 **POSITION.**

4 A. Justin R. Barnes, 1155 Kildaire Farm Rd., Suite 202, Cary, North Carolina,
5 27511. My current position is Director of Research with EQ Research LLC.

6 **Q. DID YOU PREVIOUSLY SUBMIT DIRECT TESTIMONY IN THIS**
7 **PROCEEDING?**

8 A. Yes. I submitted direct testimony on March 4, 2019.
9

10 **II. PURPOSE AND SCOPE**

11 **Q. WHAT IS THE PURPOSES OF YOUR SURREBUTTAL TESTIMONY?**

12 A. The purpose of my surrebuttal testimony is to respond to the rebuttal testimony
13 filed by Duke Energy Progress (“DEP” or “the Company”) witnesses Janice
14 Hager and Steven Wheeler regarding the validity of the Minimum System Method
15 of classifying distribution system costs for the purposes of cost allocation and rate
16 design, and the establishment of a reasonable residential basic facilities charge
17 (“BFC”). I also respond to Company Witness Wheeler’s new proposal that
18 Schedule RES customers take service under rates with a demand component that
19 recovers all non-minimum system distribution costs.¹

20 **Q. HOW IS YOUR SURREBUTTAL TESTIMONY ORGANIZED?**

21 A. In Section III I address the validity of the Minimum System Method, which forms
22 the basis for the Company’s proposed residential BFC, primarily in response to

¹ Rebuttal Testimony of Steven Wheeler (“Wheeler Rebuttal”), p. 10, lines 1-5.

1 Company Witness Hager. In Section IV I respond to the Company's assertions
2 regarding proper amount of the residential BFC, and a new residential BFC
3 proposal made by Company Witness Wheeler. In Section V I address Company
4 Witness Wheeler's residential demand rate proposal. Section IV contains my
5 concluding remarks and recommendations.
6

7 **III. THE VALIDITY OF THE MINIMUM SYSTEM METHOD**

8 **Q. PLEASE DESCRIBE THE MINIMUM SYSTEM METHOD AND HOW**
9 **DEP USES IT IN ITS COST OF SERVICE STUDY.**

10 A. As I described in my direct testimony, the Minimum System Method postulates
11 that some portion of the distribution system shared by all customers is customer-
12 related and therefore allocable to customer classes based on the number of
13 customers in a given class. In other words, a certain level of investment in the
14 shared system would be required to connect a customer even if that customer had
15 a minimal load. In practice, this results in a portion of costs in FERC Accounts
16 364-368, involving poles, overhead and underground conductors, and line
17 transformers being classified as customer-related. Its use also has downstream
18 effects beyond distribution cost allocation because other dynamic allocators are
19 influenced by the results. The Company uses this method in its cost of service
20 study to calculate class allocations and the proposed \$29.00/month residential
21 BFC.

22 In my direct testimony I described the methodological failings of the
23 Minimum System Method, summarized below:

- 1 1) It relies on a flawed premise that a customer with a zero or minimal load
2 would desire a connection to the distribution system.
- 3 2) It tends to over-allocate distribution costs to highly populous rate classes,
4 because a minimum system is typically capable of serving a considerable
5 amount of demand, resulting in this demand being assigned largely to the
6 highly populous classes, which then receive a further allocation of remaining
7 demand-related costs based on the full class demands.

8 **Q. WHAT RECOMMENDATIONS DID YOU MAKE IN YOUR DIRECT**
9 **TESTIMONY REGARDING THE USE OF THE MINIMUM SYSTEM**
10 **METHOD?**

11 A. I recommended that the Public Service Commission (“Commission”) reject its use
12 for both cost allocation and rate design, and instead rely on the Basic Customer
13 Method to define customer-related costs. The Basic Customer Method confines
14 customer-related costs to those associated with metering, billing and collection,
15 customer service, and the customer’s service drop.

16 **Q. HOW DOES THE COMPANY JUSTIFY THE USE OF THE MINIMUM**
17 **SYSTEM METHOD AND RESPOND TO YOUR RECOMMENDATIONS?**

18 A. In discussing the validity of the Minimum System Method, in both direct
19 testimony and rebuttal testimony, Company Witness Hager relies primarily on the
20 National Association of Regulatory Commissioners Electric Utility Cost
21 Allocation Manual (“NARUC CAM”).² In rebuttal testimony Witness Hager also

² Rebuttal Testimony of Janice Hager (“Hager Rebuttal”), p. 8, line 19 through p. 9, line 8.

1 contends that Dr. James Bonbright, in his seminal work *Principles of Public*
2 *Utility Rates*, lends support to the Minimum System Method by way of a
3 statement that “the exclusion of minimum system costs from demand-related costs
4 is on “much firmer ground” than its exclusion from customer costs.”³ This
5 assertion was made in response to statements in my direct testimony relating Dr.
6 Bonbright’s discussion of the matter, where he characterizes the costs of a
7 minimum distribution system as “unallocable”.⁴

8 **Q. HOW DO YOU RESPOND THE COMPANY WITNESS HAGER’S**
9 **CONTENTION THAT THE NARUC CAM SUPPORTS THE COMPANY’S**
10 **USE OF THE MINIMUM SYSTEM METHOD OF CLASSIFYING**
11 **DISTRIBUTION COSTS?**

12 A. I do not disagree that the NARUC CAM does suggest that some distribution costs
13 could be considered customer-related. However, Company Witness Hager fails to
14 appreciate that the NARUC CAM also characterizes such a practice as the subject
15 of an “unresolved argument” among analysts.⁵ In addition, the NARUC CAM
16 also notes that “minimum-size distribution equipment has a certain load-carrying
17 capability, which can be viewed as a demand-related cost.”⁶ Witness Hager also
18 fails to address the fact that a subsequent NARUC-commissioned report published
19 nearly a decade later found that more than thirty states (at the time of the report)

³ Hager Rebuttal, p. 8, lines 13-17.

⁴ Dr. James Bonbright, *Principles of Public Utility Rates*, p. 348, Columbia University Press (1961).

⁵ NARUC. Electric Utility Cost Allocation Manual. p. 136. 1991.

⁶ *Id.*, p. 95.

1 used the Basic Customer Method of classifying distribution costs rather than the
2 Minimum System Method.⁷

3 Ultimately the fact that the Basic Customer Method is not well-
4 represented in the NARUC CAM is not indicative of its broader level of
5 acceptance, which is higher than the acceptance of the Minimum System Method
6 and associated variations. Earlier draft versions of the NARUC CAM and related
7 discussions included the Basic Customer Method in addition to the Minimum
8 System Method and Zero-Intercept Method as methodologies for classifying
9 distribution costs. The Basic Customer Method was apparently removed from the
10 final version, eliciting concerns by least one state regulatory agency. Surrebuttal
11 Exhibit JRB-1 contains a letter from the Washington Utilities and Transportation
12 Commission (“UTC”) voicing the UTC’s concerns about the omission of the
13 Basic Customer Method from the NARUC CAM. Among other things, the letter
14 notes that UTC staff believes it to be the most common approach taken by
15 regulators throughout the country, citing the states of Arizona, Iowa, and Illinois
16 as states that have explicitly rejected the Minimum System Method and Zero-
17 Intercept Method.

⁷ F. Weston, et al., *Charges for Distribution Service: Issues in Rate Design*, p. 19, REGULATORY ASSISTANCE PROJECT (2000), available at: <http://pubs.naruc.org/pub/536F0210-2354-D714-51CF-037E9E00A724>.

1 **Q. HAVE OTHER STATES ALSO REJECTED THE USE OF THE**
2 **MINIMUM SYSTEM METHOD OR THE MINIMUM INTERCEPT**
3 **METHOD IN RECENT YEARS?**

4 A. Yes. As I described in my direct testimony, legislators in Connecticut directed the
5 Public Utilities Regulatory Authority (“PURA”) to utilize the Basic Customer
6 Method in 2015.⁸ Likewise, in 2018 regulators in Colorado directed Black Hills
7 Energy to eliminate the Minimum Intercept Method from its cost of service study
8 in the utility’s most recent general rate case.⁹

9 **Q. IS COMPANY WITNESS HAGER’S CHARACTERIZATION OF**
10 **BONBRIGHT’S VIEWS ON CUSTOMER COST CLASSIFICATION AN**
11 **ACCURATE REPRESENTATION OF HIS THOUGHTS ON THE**
12 **MATTER?**

13 A. No. Company Witness Hager selectively truncates Dr. Bonbright’s writing in a
14 manner that distorts the meaning. First, in discussing distribution cost
15 classification and a hypothetical minimum-sized distribution system, Dr.
16 Bonbright states “the inclusion of the costs of a minimum-sized distribution
17 system among the customer-related costs seems to me clearly indefensible.”¹⁰

18 Witness Hager relates subsequent text where Dr. Bonbright avers that minimum

⁸ Connecticut Public Act 15-5, June Special Session, *available at*:
https://www.cga.ct.gov/asp/cgabillstatus/CGABillstatus.asp?selBillType=Bill&bill_num=1502&which_year=2015

⁹ Colorado Public Utilities Commission. Docket No. 17AL-0477E. Decision No. C18-0445. June 15, 2018, *available at*:
https://www.dora.state.co.us/pls/efi/efi_p2_v2_demo.show_document?p_dms_document_id=887641

¹⁰ James Bonbright, *Principles of Public Utility Rates*, Columbia University Press, 1961, p. 348.

1 system costs ought also to be excluded from demand-related costs (“the exclusion
2 of minimum system costs from demand-related costs is on “much firmer ground”
3 than its exclusion from customer costs.”¹¹). However, she fails note that Dr.
4 Bonbright closes the loop on the matter by concluding that the costs of a
5 minimum-sized distribution system are “strictly unallocable”, while further
6 cautioning against rendering the category of customer costs a “dumping ground”
7 for costs that defy easy categorization.¹²

8 **Q. WHAT ARE THE MOST APPROPRIATE CONCLUSIONS TO REACH**
9 **FROM YOUR DISCUSSION OF THE NARUC CAM AND DR.**
10 **BONBRIGHT’S WORK?**

11 A. The most reasonable conclusions are: (1) the costs of a minimum-sized system are
12 not customer-related, and (2) a majority of states recognize this by limiting the
13 customer-related classification to the costs of meters, billing and collection,
14 customer service, and customer service drops, and classifying 100% of the costs
15 associated with the shared distribution system as demand-related. How to allocate
16 those costs is apparently a matter of debate in Dr. Bonbright’s thinking, but he
17 clearly believed that a customer-related classification is inappropriate. A
18 conclusion that the full scope of distribution costs are demand-related makes the
19 most sense because a hypothetical minimum-sized distribution system is typically
20 capable of supporting a sizable amount of customer demand.

¹¹ Hager Rebuttal, p. 8, lines 13-17.

¹² James Bonbright, *Principles of Public Utility Rates*, Columbia University Press, 1961, p. 348.

1 **Q. IN LIGHT OF THE CONCERNS YOU HAVE RAISED ABOUT THE**
2 **OVERALLOCATION OR DOUBLE-COUNTING OF DISTRIBUTION**
3 **COSTS TO POPULOUS RATE CLASSES, IS THERE EVIDENCE**
4 **INDICATING THAT THE COMPANY’S MINIMUM SYSTEM WOULD**
5 **SUPPORT A SIGNIFICANT AMOUNT OF DEMAND?**

6 A. Yes. Company Witness Hager voices confusion about my contention that the
7 Minimum System Method causes to be double-counted.¹³ I made this statement in
8 my direct testimony in reference to the fact that, as the NARUC CAM observes, a
9 minimum-sized distribution system has a load carrying capability that can be
10 viewed as a demand-related cost. A populous class such as the residential class is
11 allocated the bulk of these demand costs by the Minimum System Method, while
12 also receiving an allocation of the remaining demand-costs based on full class
13 demand. I referred to this as “double-counting”, which I believe is an accurate
14 description, though the effect could also be described as “double-allocation” or
15 “over-allocation”.

16 Such an effect is most easily visible in the context of line transformers. If
17 every one of DEP’s roughly 168,000 customers had a minimal demand consisting
18 of a 100-Watt light bulb, the system load would be roughly 16.8 MW. The
19 Company’s minimum-sized system is composed of approximately 34,400 10 kVa
20 overhead line transformers and 12,740 25 kVA underground line transformers.¹⁴

¹³ Hager Rebuttal, p. 15, lines 4-6.

¹⁴ DEP response to VS 1-18, Attachment entitled “DEP VS DR 1-18 2017 Min Sys Study,” Attached in Surrebuttal Exhibit JRB-2, p. 4. Numbers derived by scaling total DEP transformers by a factor of 8.9975%, the South Carolina percentage of total plant in

1 Thus the combined kVa rating of the “minimum-sized” system is roughly 662
2 MVA. Clearly, a system composed of the minimum-sized line transformers would
3 support significant demand in excess of a scenario where each customer possesses
4 only a minimal lighting load.

5 **Q. DOES COMPANY WITNESS HAGER TAKE ISSUE WITH ANY OTHER**
6 **PORTIONS OF YOUR DIRECT TESTIMONY THAT YOU WISH TO**
7 **RESPOND TO?**

8 A. Yes. Witness Hager states that my derivation of the costs for a grid-independent
9 solar and battery storage system that would provide the same level of service as
10 system capable of supporting a minimal lighting load is irrelevant because the
11 Company’s cost of service study focuses only on allocating embedded costs.¹⁵

12 **Q. HOW DO YOU RESPOND TO THIS CRITICISM?**

13 A. Company Witness Hager misses the points I am making based on this analysis.
14 My first point, as I discuss at length in my testimony, is that the Minimum System
15 Method is increasingly anachronistic. It rests on a hypothetical “what if” scenario
16 (i.e., a customer with a minimal service need) that I have demonstrated would not
17 occur in the modern day. When the central element of such a “what if” scenario is
18 at best highly implausible, one should question the conceptual framework of the
19 method itself.

20 Second, as I observed in the context of principles of utility ratemaking,
21 when a natural monopoly such as electric distribution service is present,

FERC Account 368 because South Carolina and North Carolina are combined in the Minimum System Study.

¹⁵ Hager Rebuttal. p. 14, lines 11-16.

1 regulation should function as a substitute for competition. In this instance, the
2 Company is seeking a residential BFC in an amount that would be uncompetitive
3 with other options that provide the same hypothetical level of service. This also
4 points to fundamental flaws in the methodology. Customers connect to the grid in
5 order to receive service for their full demands. Even if they desired the minimal
6 level of service contemplated by the Minimum System Method, they would not
7 elect to take that service from the Company at the rates the Company proposes to
8 charge.

9
10 **IV. THE RESIDENTIAL BFC**

11 **Q. WHAT RECOMMENDATIONS DID YOU MAKE REGARDING THE**
12 **SETTING OF THE RESIDENTIAL BFC IN YOUR DIRECT**
13 **TESTIMONY?**

14 A. Based on my review of the Company's calculated customer-related costs without
15 a minimum system assumption, and certain modifications I made thereto, I
16 derived a reasonable maximum residential BFC of \$9.23/month. In the interest of
17 simplicity and because the outputs of DEP's cost of service study do not permit a
18 granular, examination of costs by FERC Account, I recommended that the
19 residential BFC remain at \$9.06/month.

20 **Q. PLEASE SUMMARIZE THE COMPANY'S RESPONSES TO YOUR**
21 **DIRECT TESTIMONY REGARDING THE RESIDENTIAL BFC.**

22 A. Company Witness Wheeler contends that my recommended residential BFC
23 would create inaccurate price signals, cause high usage customers to subsidize

1 low usage customers, and result in low usage customers failing to pay the costs
2 associated with serving them.¹⁶ Company Witness Hager raises a similar concern,
3 that moving costs from the customer classification to other classifications would
4 result in customers such as those with summer homes or on-site solar installations
5 not paying their “fair share of the costs of distribution facilities.”¹⁷ Further
6 portions of Witness Wheeler’s rebuttal testimony on the residential BFC:

- 7 • State that he “believes there is merit” to the concerns raised by myself and
8 several other witnesses regarding the lack of gradualism present in the initially
9 proposed residential BFC, and suggest a “possible” alternative approach that
10 would result in a residential BFC of \$19.03/month.¹⁸
- 11 • Opine that the proposed residential BFC would not disproportionately harm
12 low-income customers.¹⁹

13 **Q. HOW SHOULD THE COMMISSION VIEW THE COMPANY’S**
14 **ARGUMENT THAT YOUR RESIDENTIAL BFC RECOMMENDATIONS**
15 **WOULD CAUSE LOW USAGE CUSTOMERS TO BE SUBSIDIZED BY**
16 **HIGH USAGE CUSTOMERS?**

17 A. The Commission should give this argument no weight because the Company has
18 not presented any supporting evidence or analysis. The single most basic question
19 that must be asked when evaluating such an assertion is “What is the definition of
20 a low usage customer?” Yet when Vote Solar asked this simple question to

¹⁶ Wheeler Rebuttal, p. 5, line 17 through p. 6, line 6.

¹⁷ Hager Rebuttal, p. 6, line 18 through p. 7, line 3.

¹⁸ Wheeler Rebuttal, p. 10, lines 6-21.

¹⁹ *Id.*, p. 6-7.

1 Company Witness Hager based on similar statements contained in her direct
2 testimony, the Company's response stated "the use of the term "low use
3 customer" was meant to be general in nature" and was not intended to refer to any
4 specific usage threshold.²⁰ Cost of service is a discipline of evidence and
5 numbers, not broad assertions or generalizations. Statements for which the
6 Company cannot respond to the most basic interrogatory with a substantive
7 answer should not be considered credible.

8 **Q. IS THERE MERIT TO COMPANY WITNESS HAGER'S ASSERTION**
9 **THAT RESIDENTIAL NET METERING CUSTOMERS ARE AVOIDING**
10 **PAYING THEIR "FAIR SHARE" OF SERVICE COSTS?**

11 A. No. My own calculations there show that there is reason to believe that the value
12 of residential net metering production, in the form of reduced allocations of costs
13 assigned based on coincident peak contribution and the marginal time-varying
14 value of customer-generated energy, is close to the retail rate that these customers
15 avoid. In my direct testimony I estimated that residential net metering customers
16 could have been expected to produce a benefit of \$84,000/MW-DC to the
17 residential class due to reductions in allocations based on coincident peak
18 demand. Based on this estimated cost of service benefit spread across annual
19 estimated energy production from these same systems, plus the Company's
20 calculated marginal time-varying energy costs from its 2017 fuel cost proceeding,
21 the value of that generation translates to roughly 9.4 cents/kWh.²¹

²⁰ DEP response to VS 1-4(a). Attached in Surrebuttal Exhibit JRB-2, p. 2.

²¹ Marginal avoided energy costs from Commission Docket No. 2017-1-E. Direct Testimony of George Brown. p. 7, Table 3. April 27, 2017.

1 While this amount is less than what net metering customers avoid paying
2 under current rates (ranging from 10.4 – 11.4 cents/kWh under Schedule RES), it
3 does not include distribution-level load shifting benefits or other potential avoided
4 cost streams. Given how close these numbers are and the fact that no customer
5 truly pays their exact cost of service, I think a generalization the net metering
6 customers do not pay their fair share of costs is misleading.

7 **Q. DO YOU AGREE THAT COMPANY WITNESS WHEELER’S**
8 **“POSSIBLE APPROACH” TO SETTING THE RESIDENTIAL BFC IS**
9 **REASONABLE?**

10 A. No. Witness Wheeler’s derivation is based on increasing the residential BFC by
11 50% of the difference between the current charge of \$9.06/month and the
12 Company’s minimum-system derived theoretical residential BFC of
13 \$29.00/month.²² This would result in an increase of \$9.97/month, to
14 \$19.03/month. The \$29.00/month amount hinges on the use of the Minimum
15 System Method, which as I have discussed at length, should not be utilized in the
16 Company’s cost of service study. Thus the amount of the increase under this
17 approach is biased by the inappropriate upper benchmark. My own derivation of a
18 reasonable maximum residential BFC is \$9.23/month. Even that amount may be
19 overstated because as discussed in my direct testimony, it includes the full cost of
20 the Customer Connect platform as customer-related, even though Customer
21 Connect is intended to also serve energy and demand-related use cases, and it was

²² Wheeler Rebuttal, p. 10, lines 16-21.

1 not possible to fully evaluate general and administrative costs that should not be
2 included in a customer charge.

3 I also disagree that such an increase is a reasonable adherence to the
4 principle of gradualism. Such an increase would still be the largest adopted for an
5 investor-owned utility (“IOU”) in monetary terms in rate cases filed since July
6 2014. The next largest is a \$7.69/month increase allowed for Alaska Power in
7 October 2017. It would also more than double the current residential BFC, a
8 percentage increase of 110%, which exceeds all other increases in percentage
9 terms except one. That single example is for Duke Energy Kentucky, for which an
10 increase from \$4.50/month to \$11.00/month (144%) was authorized in 2018. The
11 end result for Duke Energy Kentucky result though, is far more consistent with
12 the national average residential customer charge of \$10.42/month.

13 **Q. HOW DO YOU RESPOND TO COMPANY WITNESS WHEELER’S**
14 **CONTENTION THAT RESIDENTIAL BFC INCREASES WOULD NOT**
15 **DISPROPORTIONATELY HARM LOW-INCOME CUSTOMERS?**

16 A. Witness Wheeler provided a chart purporting to illustrate that low-income
17 customers would not be disproportionately harmed by the Company’s proposed
18 BFC, showing a wide range of average monthly usage among low-income
19 customers (\$30,000 or less in annual household income).²³ However, this chart
20 actually appears to show the opposite, indicating that a significant majority of
21 low-income customer bills are for usage below the residential class average. The
22 class average generally defines the usage threshold at which a customer is

²³ Wheeler Rebuttal, p. 7.

1 indifferent to whether revenues are collected via a fixed monthly charge or a
2 volumetric charge. If the percentage of low-income customers with average usage
3 below the class average is larger than the percentage with above average usage,
4 the proposed residential BFC would disproportionately adversely impact low-
5 income customers because a majority are made worse off by increases in the
6 residential BFC.

7 **Q. IN THE HYPOTHETICAL, IF A MAJORITY OF LOW-INCOME**
8 **CUSTOMERS ARE MADE BETTER OFF BY LOWER FIXED CHARGE**
9 **RATES, DOES THAT NOT ALSO MEAN THAT A MINORITY WOULD**
10 **BE MADE WORSE OFF?**

11 A. It does, but high fixed charges coupled with lower usage charges are a poor
12 solution for addressing the needs of those high usage customers. For one, in this
13 hypothetical scenario higher fixed charges would be punitive on a group of
14 customers that is larger than the group they help. Second, inordinately high usage
15 can be addressed through targeted energy efficiency initiatives. Such a strategy
16 can produce outcomes that leave all customers better off, rather than just helping
17 some at the expense of others.

1 **V. DEMAND CHARGES FOR RESIDENTIAL CUSTOMERS**

2 **Q. PLEASE SUMMARIZE COMPANY WITNESS WHEELER’S PROPOSAL**
3 **TO ESTABLISH A DEMAND CHARGE FOR SCHEDULE RES**
4 **CUSTOMERS.**

5 A. Witness Wheeler’s proposal is only vaguely defined, stating that the Company
6 should revise Schedule RES to establish a demand component that recovers all
7 distribution costs not reflected as customer-related by the Minimum System
8 Method. The basis for this proposal is Mr. Wheeler’s opinion that cost causation
9 is best served by recovering demand-related costs through demand charges.²⁴

10 **Q. DO ANY OTHER IOUS IN THE COUNTRY INCLUDE DEMAND**
11 **CHARGES UNDER STANDARD OR MANDATORY RESIDENTIAL**
12 **RATE SCHEDULES?**

13 A. No. I have researched this topic exhaustively and demand charges within standard
14 residential rates are not present for any IOU. A number of utilities offer optional
15 residential demand rates, including DEP, but none make them mandatory for an
16 entire residential class as the Company proposes.

17 **Q. ARE DEMAND CHARGES CONSISTENT WITH COST CAUSATION**
18 **FOR RESIDENTIAL CUSTOMERS?**

19 A. It is necessary to speak in generalities here because the details of the Company’s
20 proposal are sparse. That said, as typically practiced in the form of charges based
21 on monthly non-coincident peak demand, they are not aligned with cost causation.
22 Demand-related costs are caused by customer contributions to peaks at different

²⁴ Wheeler Rebuttal, p. 10, lines 1-5.

1 levels of the system. A non-coincident demand charge does not reflect the time-
2 varying nature of demand that causes these costs, or load diversity.²⁵ For
3 customers with consistent loads that tend to correspond to peak times, the
4 inaccuracies may be tolerable. Such is not true for the residential class, as
5 individual customer loads tend to be highly variable over the course of a day,
6 month, or season. Furthermore, demand charges are blunt instruments that fail to
7 capture how much a customer contributes *on average* to the peaks that drive costs,
8 since billing demand is typically measured at time scales ranging from 15 minutes
9 to an hour.

10 **Q. DO RESIDENTIAL CUSTOMERS CURRENTLY PAY FOR THE COSTS**
11 **ASSOCIATED WITH THE DEMAND THEY PLACE ON THE**
12 **DISTRIBUTION SYSTEM?**

13 A. Yes, they simply do so based on their average demands because volumetric rates
14 effectively spread demand-related costs across all hours, or in the case of time-
15 varying rates, the hours that correspond to peak and off-peak periods.

16 **Q. BEYOND COST CAUSATION, ARE THERE OTHER REASONS THAT**
17 **MANDATORY DEMAND RATE DESIGNS ARE NOT USED IN**
18 **RESIDENTIAL RATES?**

19 A. Yes. There is a general acknowledgement that for residential customers, demand
20 rates effectively act as a fixed charge because most residential customers are
21 relatively unsophisticated and do not understand them. Moreover, even if

²⁵ Load diversity refers to the fact that the sum of non-coincident peak loads of a group of individual customers is less than the maximum load that the same group of customers places on the system because the individual customer peak loads occur at different times.

1 customers do possess a conceptual understanding, it is likely that the vast majority
2 do not have the ability manage their demands in the same way that a larger, more
3 sophisticated customers can.

4 **Q. WOULD THE COMPANY'S PROPOSAL LEAD TO A MORE**
5 **ECONOMICALLY EFFICIENT RATE STRUCTURE FOR**
6 **RESIDENTIAL CUSTOMERS?**

7 A. No. Economic efficiency is achieved by sending an accurate price signal that
8 customers are equipped to respond to. As I discuss above, as traditionally
9 implemented, demand charges are not consistent with cost causation for
10 residential customers, thus the price signal is not accurate. Second, rates only
11 produce more economically efficient outcomes if customers can respond to them.
12 If customers cannot respond, a new price signal just creates a different set of
13 winners and losers without increasing economic efficiency.

14 **Q. WHAT IS YOUR RECOMMENDATION TO THE COMMISSION**
15 **REGARDING WITNESS WHEELER'S RESIDENTIAL DEMAND**
16 **CHARGE PROPOSAL?**

17 A. The Commission should reject the proposal. As a threshold matter, it would be
18 inappropriate to consider a new proposal that contemplates dramatic changes to
19 residential rate structure at this stage of the proceeding. Furthermore, the proposal
20 itself is ill-defined and lacks anything resembling the level of detail and
21 evidentiary support necessary to determine whether it would produce just and
22 reasonable rates and achieve the proper balance of ratemaking objectives.

23

1 **VI. CONCLUSION**

2 **Q. DOES ANY INFORMATION PROVIDED BY THE COMPANY IN ITS**
3 **REBUTTAL CHANGE ANY OF THE RECOMMENDATIONS YOU**
4 **MADE IN YOUR DIRECT TESTIMONY?**

5 A. No, my initial recommendations are unchanged. However, I additionally
6 recommend that the Commission disregard Company Witness Wheeler's proposal
7 to establish a demand charge for Schedule RES customers. Beyond the fact that it
8 would be inappropriate to consider such a significant new rate design proposal at
9 this stage of the proceeding, the proposal itself is unprecedented and vaguely
10 defined, and the Company has not provided any substantive analysis of why it is
11 needed and how it would impact customers.

12 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

13 A. Yes.